

**V.—List of some Katydids (Tettigoniidae)
in the Sarawak Museum.** By H. H. KARNY,
Buitenzorg, Java.

Dr. Mjöberg was kind enough to send me the katydids and walking-stick insects collected by him, especially on Mt. Murud and Mt. Dulit, for determination. In the following pages I give a list of the Tettigoniidae, whilst the Gryllacridae and Phasmoidea will be reserved for future papers. I wish to express my thanks to Dr. Mjöberg for the opportunity of studying this small but interesting collection.

SUBFAM. SCAPHURINAE (syn. PHANEROPTERINAE).

MIROLLIA Stal.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 136 (with list of literature).

MIROLLIA LUTEIPENNIS n. sp.

♂, ♀. General colour green, hind wings (except the green apex) orange red. Pronotum practically as in *M. carinata*, but the median longitudinal keel more tender, less elevated, distinctly interrupted by the transversal sulci, the second of which V-shaped, backwards produced in a fine longitudinal furrow replacing there (between second and third sulcus) the

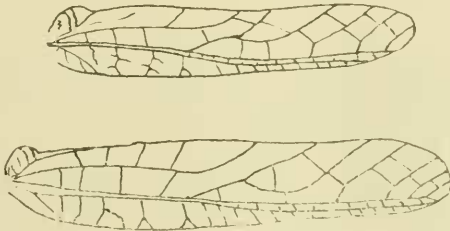


Fig. 1. Left tegmen of *Mirollia luteipennis* (above), and *gracilis* (beneath). ♂. Enlarged.

longitudinal carina. Fore coxae unarmed. Fore tibiae slightly sulcate above, without spine, beneath with a few short spines. Tibial foramina as in *M. carinata*, viz., the outer one broadly open, the inner shell-shaped. Hind knees concolourous. Tegmina longer and narrower than in *M. carinata*. arrangement of veins practically the same as in that species; radial branch going off in the middle. Anal field of ♂ distinctly narrower than in *M. carinata*. Hind wings bright coloured.

♂. Supra-anal plate longer than wide, in basal part almost parallel-sided, then broadened, with a twice sinuated apical margin. Cerci long, slender, somewhat curved, crossed with each other, not embracing the subgenital plate, but lying upon

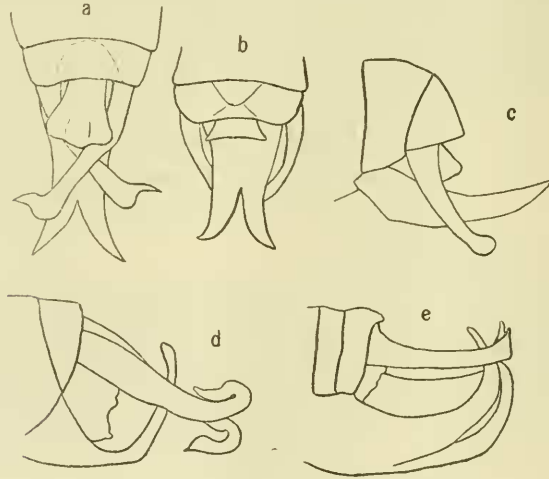


Fig. 2. ♂ genitalia of *Mirollia*: a *luteipennis*, b and c *gracilis*, d *carinata*, e *Deflorita deflorita*. a & b dorsal view, c, d, e, lateral view. Enlarged.

this; distinctly thickened before the end, which is produced into a sharp spine. Subgenital plate long, nearly plain, at the end divided by a deep triangular incision in two sharply pointed lobes.

♀. Subgenital plate of nearly the same shape as in *M. carinata*, but the incision a little narrower and the lobes somewhat more rounded. Ovipositor as in *M. carinata*.

Measurements :	♂	♀
Length of body	22.5 mm. ...	13 mm.
	(too much contracted)	
" " pronotum	4.8 mm. ...	4.5 mm.
" " tegmina	26 " ...	27 " "
" " hind femora	12.8 " ...	14 " "
" " ovipositor	— ...	6 " "

1 ♂, 1 ♀ from Mt. Dulit.

This new species comes by its general characters to the *Mirollia*-group and seems to be intermediate between *Deflorita* and *Mirollia*, somewhat closer related to the latter. The longitudinal keel of pronotum is conspicuously less developed than in *M. carinata*, whilst entirely wanting in *Deflorita*. The longer and narrower tegmina somewhat resemble *Deflorita*, but the hind margin is nearly straight, very slightly equally curved, not sinuated as in *Deflorita*. The ♂ genitalia agree better with *Mirollia* than with *Deflorita*, differing however from both these genera. The bright coloured wings represent also a good specific character, diverging from *Deflorita* and *M. carinata*, in which both the hind wings are (except the green apex) absolutely colourless. Apparently also in the two *Mirollia*-species described recently by Hebari the wings are colourless, because the author says nothing thereon. The ♂ genitalia, further, differ also in these two species from both described here.

MIROLLIA GRACILIS n. sp.

♂. Very similar to the preceding species, differing from it by the somewhat smaller size and the pale lemon yellow hind wings. Sculpture of pronotum as in *luteipennis*. Fore tibiae blackish near the foramina and before the tarsus. Hind knees black. Radial branch of tegmina arising somewhat before the middle. ♂ genitalia very similar to those of *luteipennis*, but the cerci embracing the subgenital plate, and the supra-anal plate distinctly wider and shorter than in the preceding species. ♀ unknown.

Measurements: Length of body 17 mm., of pronotum 4 mm., of tegmina 22 mm., of hind femora 11.5 mm.

1 ♂ from Mt. Dulit; having the right middle leg regenerated, only half as long as the left, the tibia a little curved, without spines, the tarsus composed of 4 extraordinarily short joints (which are broader than longer).

This species differs from *M. carinata* and *Deflorita* by the same characters as *luteipennis*, from this especially by the paler wings, the earlier arising radial branch, the black knees and the shape of ♂ genitalia.

ANCYLECHA Serville.

1839. Serville, Hist. Nat. Ins. Orth., p. 411.
 1869. Walker, Cat. Derm. Salt. Brit. Mus., ii, p. 357.
 1876. Stal, Bih. Svensk. Akad., iv, (5) p. 56.
 1878. Brunner v. W., Mon. Phan., p. 159.
 1891. Brunner v. W., Verh. zool.—bot. Ges. Wein, xli, p. 11.
 1906. Kirby, Syn. Cat. Orth., ii, p. 422.

ANCYLECHA FENESTRATA Fabricius.

1793. Fabricius, Ent. Syst., ii, p. 34 (*Locusta*).
 1838. Burmeister, Handb. Ent., ii, p. 692 (*Phylloptera*).
 1839. Serville, Hist. Nat. Ins. Orth., p. 411 (*Lunuligera*).
 1842. Dehaan, Temminck, Verh., Orth., p. 197 (*Locusta Phylloptera f.*).
 1869. Walker, Cat. Derm. Salt. Brit. Mus., ii, p. 357 (*Lunuligera*).
 1878. Brunner v. W., Mon. Phan., p. 160.
 1904. Krausze, Ins. Börse, xxi.
 1906. Kirby, Syn. Cat. Orth., ii, p. 422.
 1920. Karny, Zool. Wedeel., v, 4, p. 209.
 1921. Karny, Trop. Nat., x, 5, p. 68 (fig. 5b), 69.
 1921. Karny, Treubia, i, 4, p. 296.
 1922. Hebard, Proc. Ac. Nat. Sci. Philad., lxxiv, p. 139.

A fine, large ♂ specimen from Mt. Murud, 6000 feet, distinctly larger than the Javanese specimens, viz., length of body 34 mm., of pronotum 10.3 mm., of tegmina 71 mm., of hind femora 39 mm., width of tegmina 27.5 mm. Otherwise perfectly agreeing with specimens from Java.

ARNOBIA Stal.

ARNOBIA PHILIPES (De Haan).

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 139 (with list of literature).

1 ♂ from Lio Matu, 1 ♂ from Mt. Murud 6500 feet.

TAPIENA Bolivar.

TAPEINA Brunner 1878, 1891; Kirby 1906.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 139 (where by a misprint the genus is by all authors mentioned as *Tapiena*).

TAPEINA CUCULLATA (Brunner v. W.).

1891. Brunner v. W., Verh., zool.—bot. Ges. Wien, xli, p. 74. (*Tapcina*).

1891. Karsch, Berl. Ent. Zeitschr., xxxvi, i, p. 210. (*Tapcina*).

1906. Kirby, Syn. Cat. Orth., ii, p. 424. (*Tapcina*).

2 ♀ from Mt. Dulit, one of them freshly emerged, agree fully with Brunner's short description. Nevertheless, it is possible that they may be a different species, as Brunner's diagnosis is very short and he gives no figure of ♀ subgenital plate. The detection of Bornean ♂ specimens only could decide this problem, because the differences in ♀ characters are very slight.

STICTOPHAULA Hebard.

1922. Hebard, Proc. As. Nat. Sci. Philad., lxxiv, p. 150.

STICTOPHAULA SPINOSO-LAMINATA (Brunner v. W.).

1842. De Haan, Temminck. Verh. Orth., p. 194. (*Locusta Phanoptera japonica*, Partim).

1878. Brunner v. W., Mon. Phan., p. 168. (*Phaula*).

1891. Brunner v. W., Verh. zool.—bot. Ges. Wein, xli, p. 80. (*Phaula*).

1906. Kirby, Syn. Cat. Orth., ii, p. 426 (*Phaula*).

1920. Karny, Zool. Mededeel., v, 4, p. 193 (*Phaula*).

2 greyish-green ♀ from Mt. Murud, 6500 feet, perfectly agreeing in all characters with Javanese specimens of Buitenzorg Museum.

The species was known hitherto from Java only.

HOLOCHLORA Stal.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 153 (with list of literature).

HOLOCHLORA ENSIS (De Haan).

Karny, l. c., p. 155 (with list of literature).

1 ♂ from Mt. Dulit, 1 ♀ (in alcohol) from Kalabit country, 3000 feet, leg. Mjöberg.

HOLOCHLORA OBTUSA Brunner v. W.

1878. Brunner v. W., Mon. Phan., p. 178.

1891. Brunner v. W., Verh. zool.—bot. Ges. Wien, xli, p. 89.

1906. Kirby, Syn. Cat. Orth., ii, p. 431.

I place in this species with some doubt 1 ♀ from Mt. Dulit, differing from *venosa* by its distinctly large size, viz., length of tegmina 59 mm. of hind femora 38 mm. otherwise agreeing with the measurements given by Brunner for *H. obtusa*.

The antennae are reddish-brown, not black, as described by Brunner. Ovipositor a little larger and considerably longer than in Javanese specimens of *H. venosa* (Buitenzorg Museum). Subgenital plate having the form of an equally-sided triangle, blunt at apex, according to Brunner (1878, p. 178) "brevissima, triangularis, obtusa." I find a slight difference there against the Javanese specimens of *H. venosa* before me, as these latter have this plate a little more slender and distinctly excised at extreme apex, whilst Brunner says thereon (1878, p. 175): "brevis, triangularis, apice submarginata;" and (1891, p. 89): "apice integra...triangularis, elongata." It is very difficult to recognize a species with certainty from such contradictory statements.

H. obscura was known hitherto from Malay Peninsula only.

SYMPAESTRIA Brunner v. W.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 156 (with list of literature).

SYMPAESTRIA ACUTEJOBATA Brunner v. W.—Karny 1. c.

1 ♀ from Lio Matu. Dr. Mjöberg has written on the label: "face greenish-white, underside.....salmon-coloured."

SUBFAM. MECOPODINAE.

CHARACTA Redtenbacher.

1892. Redtenbacher, Verh. zool.—bot. Ges. Wein, xlii, p. 207.
 1906. Kirby, Syn. Cat. Orth., ii, p. 361.
 1916. Caudell, Wytzman, Gen. Ins., fasc. 171, p. 21.

CHARACTA BITUBERCULATA Redtenbacher.

1892. Redtenbacher, Verh. zool.—bot. Ges. Wein, xlii, p. 207.
 1906. Kirby, Syn. Cat. Orth., ii, p. 361.
 1916. Caudell, Wytzman, Gen. Ins., fasc. 171, p. 21.

I place in this species 1 ♀ from Mt. Murud, 6000 feet, which agrees well with characters given by Redtenbacher, diverging by the more distant transverse veins of tegmina, the subgenital plate (♀) rounded, not incised at apex, and especially by its somewhat smaller size, viz. :—

Length of body 34.5 mm. of pronotum 8.5 mm. of tegmina 40.5 mm. of fore femora 20 mm. (hind femora wanting), of ovipositor 22 mm.

Hind wings distinctly shorter than tegmina. Lateral keels of pronotum quite as in *bituberculata*, much differing from *Ch. rehnii*.

SUBFAM. PTEROPHYLLINAE (syn. PSEUDOPHYLLINAE).

ONOMARCHUS Stal.

Karny, Journ. R. As. Soc., Mal. Br. 87, 1923, p. 168 (with list of literature).

ONOMARCHUS MANDARINUS Pictet & Saussure.

Syn. *O. cretaceus* Pictet & Saussure (nec Serville).

O. LEUCONOTUS Karny (nec Serville), l. c.

For synonymy see: Karny, Treubia, v, 1—3, 1924.

1 ♂ and 1 ♀, both in alcohol, from Baram River, which agree perfectly with Javanese specimens, except that the ♀ has a bright red spot on each side at base of ovipositor which I have found in Javanese specimens.

To the same species belongs very probably also a ♀ larvæ (dry) from Mt. Dulit.

PROMECA Brunner v. W.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 170 (with list of literature).

PROMECA QUADRIPUNCTATA Brunner v. W.

1895. Brunner v. W., Mon. Pseudoph., p. 53.

1906. Kirby, Syn. Cat. Orth., ii, p. 299.

1922. Hebard, Proc. Ac. Nat. Sci. Philad., lxxiv, p. 195.

1 ♀ from Mt. Dulit, differing from Javanese specimens by its somewhat larger size, viz., length of body 34.5 mm. of pronotum 8 mm. of tegmina 48 mm. of hind femora 19 mm. of ovipositor 21.5 mm.

OLCINIA Stal.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 177 (with list of literature).

OLCINIA PILIFRONS n. sp.

♀. Very similar to *H. crenifolia*, from which it differs by the following characters:—Forehead to a great extent black, this colour being somewhat produced on cheeks, whilst these are entirely pale in *H. crenifolia*; upper part of forehead densely set with long, stiff, yellow hairs, being quite bald in *H. crenifolia*. Pronotum (fig. 3a) shorter, less sculptured, at the fore

margin broadly rounded, not produced in two tubercles as in *crenifolia* (fig. 3b). Radial vein of tegmina (fig. 3e) wider

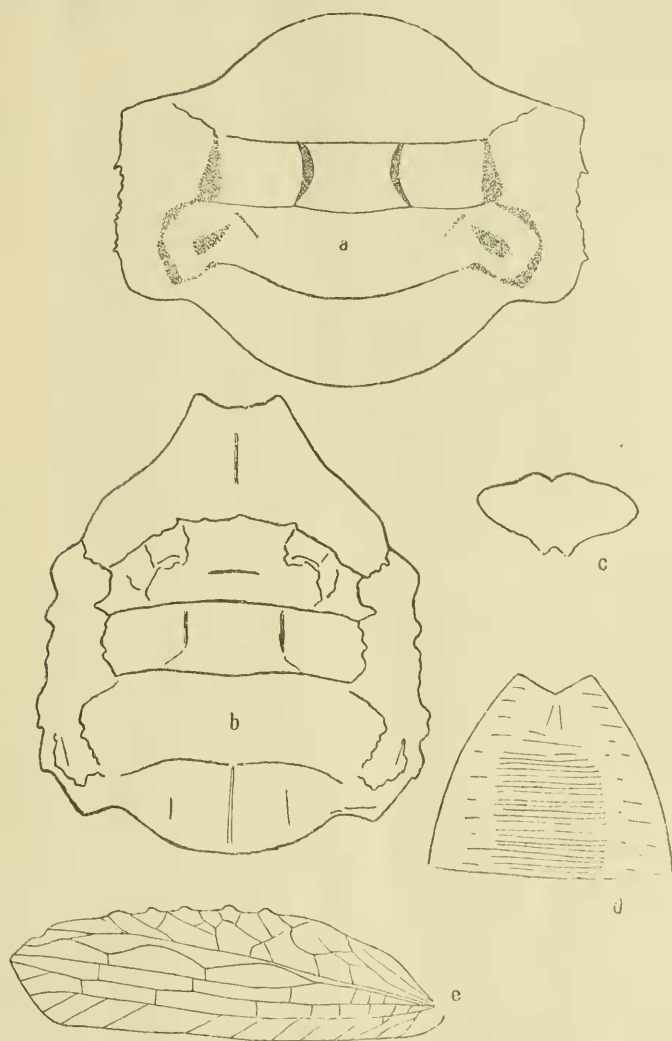


Fig. 3. *Olcinia pilifrons* (a, c, e) and *crenifolia* (b, d). a, b pronotum; c, d ♀ subgenital plate; e tegmen. Enlarged.

separated from subcosta, especially at the two backwards produced angles, whilst these are less produced in *H. crenifolia*

and the two veins there being nearly contiguous. All femora narrower (fig. 4), not undulated beneath, closely set with long, stiff, yellow hairs, those on the lower margin about as long as

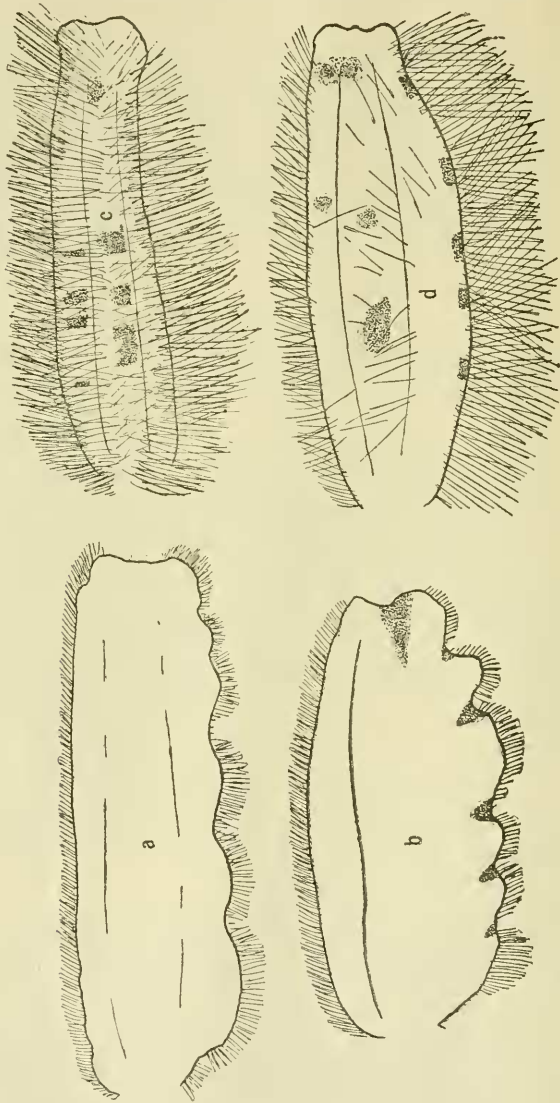


Fig. 4. Fore (a, c) and middle (b, d) femora of *Olcinia crenifolia* (a, b) and *O. pilifrons* (c, d). Enlarged.

the femur wide, much longer than in *H. crenifolia*; inferior margin of fore and hind femora equally curved, without lobes. Hind knees in larger extent deep black, nitid; of the same colour also the end of hind tibiae. Subgenital plate (fig. 3c) of ♀ much shorter, apically more narrowed, not transversely striated as it is in *H. crenifolia* (fig. 3d).

Measurements: Length of body 31.5 mm. of pronotum 6 mm. of tegmina 50 mm. of hind femora 16 mm. of ovipositor 16.5 mm.

1 ♀ from jungle at the foot of Mt. Dulit.

SUBFAM. MECONEMINAE.

XIPHIDIOPSIS Redtenbacher.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 178 (with list of literature).

XIPHIDIOPSIS BORNEENSIS n. sp.

♂, ♀. Small and slender. Yellowish green, with a distinct pale yellow length band on each side of pronotum, continued as a brownish yellow stripe throughout the hind margin of tegmina. Disc of pronotum strongly produced backwards, with rounded hind margin. Lateral lobes not very high, rounded triangular, their hind margin very oblique, slightly S-shaped, without a distinct humeral sinus. Foramen of prothorax free, oblique, narrow, somewhat pointed on both ends. Tegmina reaching nearly to the hind tarsus, with strong, yellow transverse veins. Radial branch arising far before the middle, without a spurious vein at the base. Hind wings hardly (less than 1 mm.) overreaching the tegmina. All femora without spines on both margins; the hind ones strongly dilated in basal part, very slender distad. Tibial foramina open on both sides. Fore tibiae beneath with 4 movable, long, pale spines on each side. Middle tibiae strongly compressed in the two basal thirds, slender distad; spines as on the fore pair, but a little shorter.

♂. Anal segment slightly rounded, somewhat emarginate in the middle. Cerci thick at base, slightly curved, close

behind the middle with a rounded, upwards directed lobe,

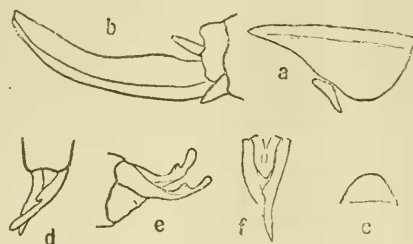


Fig. 5. *Xiphidiopsis borneensis*. a pronotum (lateral view); b ovipositor; c ♀ subgenital plate; d—f ♂ genitalia (d dorsal, e lateral, f ventral view). Enlarged.

slightly dilated and blunt at apex. Subgenital plate longer than wide, rectangularly pointed at apex; styles not distinguishable with certainty.

♀. Ovipositor shorter than usual in the genus, slightly up-curved, with smooth margins, blunt at apex. Cerci conical, not narrowed basad. Subgenital plate rounded.

Measurements :	♂	♀
Length of body ...	8.5 mm.	8 mm.
" " pronotum ...	3.2 "	3 "
" " tegmina ...	17.7 "	15 "
" " hind femora ...	8 "	7.4 "
" " ovipositor	3.5 "

1 ♂ from Mt. Murud (6500 feet) and 1 ♀ from Mt. Dulit.

This new species comes in my key (Treubia, v, 1—3, pp. 110—111) very near to the Sumatran *X. hebaridi*, and agrees therewith by the strong cross veins of tegmina, the yellow length stripes on pronotum, by the shape of ♂ anal segment, and by the extraordinarily short ovipositor. It differs, however, from *X. hebaridi* by the shape of ♂ subgenital plate.

By the enumerated characters it may be distinguished from all the hitherto known *X. phidiopsis*-species, and thus it can also not be mistaken for one of the Malayan species recently described by Hebard (Proc. Nat. Sci. Philad., lxxiv, 1923, p. 253 ff.).—These differ at the first view by the entirely otherwise shaped ♂ genitalia.

XIPHIDIOPSIS MJÖBERGI n. sp.

Pale yellowish, apparently green when alive. Eyes dark brown. Pronotum unicolorous, strongly produced backwards, with rounded posterior margin. Lateral lobes with an obtuse, rounded angle in front and beneath; hind margin very oblique, slightly sinuated, without a distinct humeral sinus. Foramen of prothorax somewhat broadly open, not obtected by the lateral lobes. Tegmina long and narrow, of the same colour as the body, in their distal half with about 6 very minute blackish dots between the branches of radial sector, further before the first and behind the last branch; these are distinct in ♀ ♀, not visible in the ♂ ♂ before me. Radial sector arising distinctly before the middle, with 4—5 branches; at the base no spurious vein or a very indistinct one. Cross veins not unusually thickened, of the same colour as the tegmina themselves. Hind wings overreaching the tegmina by about 1.5 mm. Tibial foramina open on both sides. Fore tibiae with 4 pairs of long, pale spines. Middle tibiae somewhat compressed in the basal half (less than in the preceding species), slender in the apical third; their spines (4 on outer, 2—3 on inner margin) hardly more than half as long as those of fore tibiae. Hind tibiae very slender, densely spined above, and with six spines in the apical half beneath.

♂. (Type). Anal segment simple, with roundly sinuated hind margin. Supra-anal and anal plates not visible. Cerci curved, thick based, slender distad, with a strong, acute, spine-

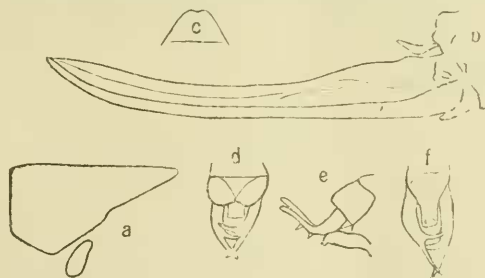


Fig. 6. *Xiphidiopsis mjöbergi*. Meaning of letters as in fig. 5. Enlarged.

like process near the middle, pointed at apex. Subgenital plate about quadrate when seen from above, longer than broad at base when seen from beneath, basad more than twice as wide as distad, with truncate margin. Styles rudimentary.

♀. Cerci distinctly constricted basad, broadest near the middle, not very acute at apex. Ovipositor nearly straight, very slightly upcurved, with smooth margins, acute at apex. Subgenital plate bluntly triangular, slightly emarginated at apex.

Measurement :	♂	♀
Length of body ...	8.5—10.3 mm	10.3—11 mm
" " pronotum ...	3.3— 3.8 "	3.2—3.4 "
" " tegmina ...	17—17.7 "	17.4—18 "
" " hind femora ...	9.5 "	9.5 "
" " ovipositor ...		7.3—7.5 "

2 ♂♂ from Mt. Dulit, 1 ♀ from Mt. Murud, and 1 ♀ from Pah Trap.

I have allowed myself the pleasure of naming this new species after its discoverer, Dr. Eric Mjöberg, late Curator of the Sarawak Museum.

This new species comes in my key (1. c.) to the *fallax-kraussi*-group, but differs from all these species by the simple ♂ segment and also by the shape of cerci. By these characters it resembles somewhat to *Amytta nigri-gutta* and *Meconemopsis borellii*. But it differs from both these widely by its generic characters and also by the details of ♂ genitalia, especially by the very rudimentary styles. I am not quite sure whether the ♀♀ described above belong to the same species, as they differ from the ♂♂ by their unicolorous, not blackish dotted tegmina. If they should prove to belong to another species, the ♂♂ should be regarded as types of *X. mjobergi*.

EUANISOUS Hebard.

1922. Hebard, Proc. Ac. Nat. Sci. Philad., lxxiv, p. 262.

When I wrote my "Prodromus der malayischen Meconeminen" (Treubia, v. 1. c.), I had not yet seen Mr. Hebard's paper. I agree perfectly with him in separating this genus from the true *Xiphidiopsis*.

EUANISOUS TEUTHROIDES (Bolivar).

1905. Bolivar, Ann. Mus. Nat. Hungar., iii, p. 391. (*Xiphidiopsis*).

1907. Karny, Abh. zool.—bot. Ges. Wien, iv, 3, p. 100. (*Xiphidiopsis*).

1912. Karny, Wytzman, Gen. Ins., fasc. 131, p. 6. (*Xiphidiopsis*).

1912. Karny, Ber. Zool. Mus. Dresden, xiv, 2, p. 22. (*Xiphidiopsis*).

1922. Hebard, Proc. Ac. Nat. Sci. Philad., lxxiv, p. 262.

Bolivar mentioned in his "Conocéphalides de la Nouvelle-Guinée" this species from "Singapore," so that it seemed there was another place of this name also; I have therefore included this species in my list of New Guinean Conocephalidae (s. l.), but I cannot find a "Singapore" on any map of New Guinea, whilst Bolivar said nothing about this "Nouvelle-Guinée" species, coming from Straits Settlements. Hebard, however, got recently material of this species from Singapore, Straits Settlements, and thus I think Bolivar's specimen might also have been collected at the same locality.

I place therefore in the same species some specimens (2 ♂, 3 ♀) from Mt. Dulit collected by Mjöberg. The ♀ agree perfectly with Hebard's description, and the ♂ are also tolerably conformable with the characters given by Bolivar. As may be seen from my description of *E. mirabilis*, I think the large plate above the subgenital plate, described by Redtenbacher and Bolivar as supra-anal plate, should probably be rather a subanal plate. Its shape agrees very well with Bolivar's "lamina supra-anal." Also the cerci show accurately the same shape as described by that author. The subgenital plate, however, is very deeply incised, having a large lobe on each side of this incision, not mentioned by Bolivar. As Redtenbacher says in the description of the very closely allied Javanese species *distincta* "margine interno basi



Fig. 7. *Euanisous teuthroides* (?). Meaning of letters as in fig. 5. Enlarged.

rotundato," I think this lobe may also be present in *teuthroides*. The tricuspidate apical lobes of this plate, on the other hand, agree very well with Bolivar's description. Thus

I am not absolutely sure that I have the same species before me as Bolivar, but I find it still very probable. At all events, I give here figures of the ♂ genitalia of one of the Bornean specimens before me. In every case this species differs by these characters from both *E. distincta* Redtenbacher and *E. mirabilis* Karny, whilst it agrees with them by its hind tibiae distinctly spined beneath in the apical half, which were described by Bolivar as unarmed in *E. teuthroides*. Hebard (l. c.), however, stated: "The caudal tibiae.....are in the topotypic material before us armed dorsad with small spines and ventrad, except in proximal portion, with slightly larger spines, distad with three pairs of spurs. The male before us agrees so closely in every other detail with Bolivar's description that we are convinced "femora" instead of "tibiae" was intended. Thus *E. distincta* appears to be separable mainly by its smaller size, unarmed mesosternum and by male genitalia differences." Therefore, I think the arming of hind tibiae in the material before me to be no reason for separating it from *teuthroides*, as the mesosternum is distinctly bituberculate in both.

SUBFAM. HEXACENTRINAE (syn. LISTROSCELINAE).

HEXACENTRUS Serville.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 182 (with list of literature).

HEXACENTRUS MUNDUS (Walker).

1869. *Piuramunda* Walker, Cat. Derm. Salt. Brit. Mus., ii, p. 282;
Tedla sellata Walker l. c., p. 393.
1870. *Tedla simplex* Walker, Cat. Derm. Salt. Brit. Mus., iii, p. 484.
1891. Redtenbacher, Verh. zool.—bot. Ges. Wien, xli, p. 551 (*annulicornis*, nec. Stal).
1906. Kirby, Syn. Cat. Orth., ii, p. 287 (*munda*).
1907. Karny, Abh. zool.—bot. Ges. Wien, iv, 3, p. 108 (*annulicornis*, nec. Stal).
1912. Karny, Wytsman, Gen. Ins., fasc. 131, p. 15 (*munda*).
1912. Karny, Abh. Ber. Zool. Mus. Dresden, xiv, 2, p. 19, 23 (*munda*).
1913. Bolivar, Asoc. Esp. Progr. Cienc., 4 a, Ci. Nat., p. 8 (*munda*).
1915. Brunner, Univ. Stud. Lincoln, xv, 2, p. 271 (*munda*).
1922. Hebard, Proc. Ac. Nat. Sci. Philad., lxxiv, p. 269.

1 ♂ from Lio Matu and 1 ♀ from Mt. Murud, 6500 feet, both having all two basal joints of tarsi pale.

SUBFAM. CONOCEPHALINAE.

XIPHIDION Serville.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 182 (with list of literature).

XIPHIDION LONGIPENNE (De Haan).

Karny, l. c., p. 183 (with list of literature).

I believe Mr. Hebard is right in uniting this species with Redtenbacher's *longicornis*.

1 ♂ and ♀ of this common and widely spread species from Mt. Dulit.

SUBFAM. AGRAECIINAE.

MACROXIPHUS Pictet.

- 1888. Pictet, Mém. Soc. Genève, xxx (6), p. 52.
- 1891. Redtenbacher, Verh. zool.—bot. Ges. Wien, xli, p. 468.
- 1896. Brongniart, Bull. Soc. Philom., (8) viii, p. 127.
- 1905. Dohrn, Stett. Ent. Zeit., lxvi, p. 242.
- 1906. Kirby, Syn. Cat. Orth., ii, p. 263.
- 1907. Karny, Abh. zool.—bot. Ges. Wien, iv, 3, p. 55, 72.
- 1912. Karny, Wytzman, Gen. Ins., fasc. 141, p. 30.

MACROXIPHUS VAGINATUS Pictet.

- 1888. Pictet, Mém. Soc. Genève, xxx (6), p. 53. •
- 1891. Redtenbacher, Verh. zool.—bot. Ges. Wien, xli, p. 468.
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- 1912. Karny, Wytzman, Gen. Ins., fasc. 141, p. 31.
- 1922. Hebard, Proc. Ac. Nat. Sci. Philad., lxxiv, p. 227.

1 ♀ larvae from Mt. Dulit.

MACROXIPHUS VARIPES n. sp.

♀. Reddish brown. Scrobes of antennae unicolorous, second segment only a little darker at base. Head as in *pictipes*. Hind margin of pronotum not black. Basal part of tegmina near fore margin slightly greenish, the remainder yellowish brown with dark spots in the same manner as in *pictipes*. Sides of meso- and metathorax (above the insertion of legs) blackish; breast concolorous with the body, not



Fig. 8. ♀ subgenital plate of *Macroxiphus pictipes* (left) and *M. varipes* (right). Enlarged.

black. Legs spined and coloured as in *pictipes*, middle and hind knees black. Subgenital plate (♀) less narrowed towards the apex than in *pictipes*, at the end more broadly excised. Ovipositor not overreaching the end of tegmina.

Measurements: Length of body 35 mm. of pronotum 9.5 mm. of tegmina 53 mm. of hind femora 27.5 mm. of ovipositor 33 mm.

1 ♀ from Kalabit Country, Tamabo.

This new species belongs to the *pictipes-megapterus*-group, having the fore femora spined on both edges. Griffini (1908) stated that *M. pictipes* and *M. megapterus* are identical, and I am following him in "Genera Insectorum" (1912). Recently Hebard says that he also concurs with this opinion (1922). In every case, these two species are very closely related to each other, but according to the original descriptions they differ in the shape of ♀ subgenital plate which is in *M. megapterus* (according to Brongniart) "apice truncate haud excisa," in *pictipes* "attenuata, apice triangulariter excise" (Dohrn). The ♂ of *M. megapterus* was unknown to Brongniart, but Hebard described the ♂ genitalia: Dohrn, however, stated for the male cerci, "apice bifidi, subtus in medio dente brevi acuto instructi." There appears to

be some inaccuracy here, as the males before us, though agreeing closely in other respects, have the strongly incurved cerci bidentate distad and, though unarmed ventrad, bearing mesad on the dorso-external margin a stout, uncinuate tooth, directed caudad. A ♀ from Dutch N. Borneo in the collection of Buitenzorg Museum agrees perfectly with Dohrn's description of *M. pictipes*, whilst a ♂ from the same locality has the cerci as described by Hebard. Thus I am not quite sure whether the two species are different, or the description of Brongniart's ♀ and that of Dohrn's ♂ is inadequate. In every case, my ♀ of *M. varipes* differs from Brongniart's description by the shape of subgenital plate, coming nearer to *M. pictipes* in this character. But the shape of this plate is also not the same as in the *M. pictipes* ♀ of Buitenzorg Museum (fig. 8). *M. varipes* differs, moreover, also by its much shorter ovipositor and by the pale sterna. The ovipositor seems not to be mutilated in the only specimen before me, but it should be possible that it were a character of less specific value, because the ovipositor may perhaps be a regenerate in consequence of a mutilation during the larval stage. In the collection of Buitenzorg Museum there is also a ♀ of *M. acroxiphus* from Dutch N. Borneo agreeing in all other characters entirely with the true *M. pictipes* and differing thereby from *M. varipes*, but having the ovipositor not longer than this latter species.

SUBFAM. COPIPHORINAE.

EUMEGALODON Brongniart.

Karny, Journ. R. As. Soc., Mal. Br., 87, 1923, p. 187 (with list of literature).

EUMEGALODON INTERMEDIUS Karny.

1923. Karny, l. c., p. 189.

1 ♀ from Mt. Murud, 5500 feet, differing from the type specimen by the second pronotal projection somewhat more pointed, by the anal field of tegmina and base of chief veins bright verdigris green, by the spines on upper side of fore femora much shorter, those of middle femora entirely wanting, and by its somewhat smaller size, viz., length of body 46 mm. of pronotum 18 mm. of tegmina 53.5 mm. of hind femora 28 mm. of ovipositor 31 mm.